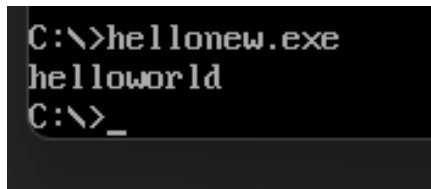


**Q.1. Write an assembly language program to print hello world using mov ah,02 service routine.**



```
C:\>hellonew.exe
helloworld
C:\>_
```

**dosseg**

**.model small**

**.stack 100h**

**.data**

**.code**

**main proc**

**mov dl,'h'**

**mov ah,2**

**int 21h**

**mov dl,'e'**

**mov ah,2**

**int 21h**

**mov dl,'l'**

**mov ah,2**

**int 21h**

**mov dl,'l'**

**mov ah,2**

**int 21h**

**mov dl,'o'**

**mov ah,2**

**int 21h**

**mov dl,'w'**

**mov ah,2**

**int 21h**

**mov dl,'o'**

**mov ah,2**

**int 21h**

**mov dl,'r'**

**mov ah,2**

**int 21h**

**mov dl,'l'**

**mov ah,2**

**int 21h**

**mov dl,'d'**

**mov ah,2**

**int 21h**

**mov ah,4ch**

**int 21h**

main endp

end main

**Q.2. Write Assembly program to Input Character from user and display it.**

```
dosseg
.model small
.stack 100h
.data
.code

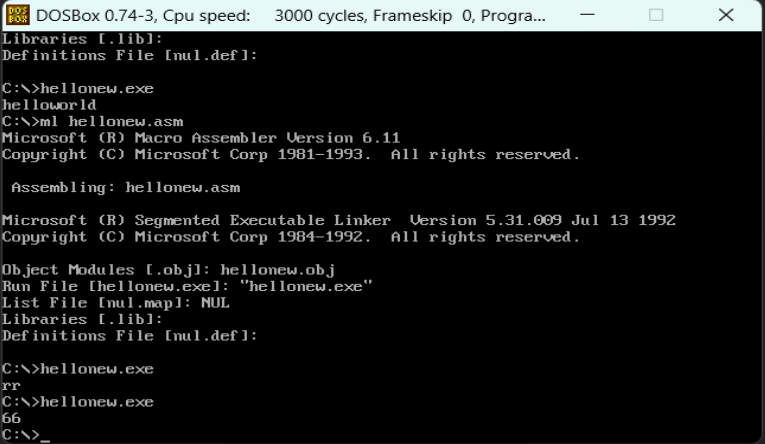
main proc

mov ah,1
int 21h

mov dl,al
mov ah,2
int 21h

mov ah,4ch
int 21h

main endp
end main
```



**Q.3. Take number and print the next number**

```
dosseg
.model small
.stack 100h
.data
.code

main proc

mov ah,1
int 21h

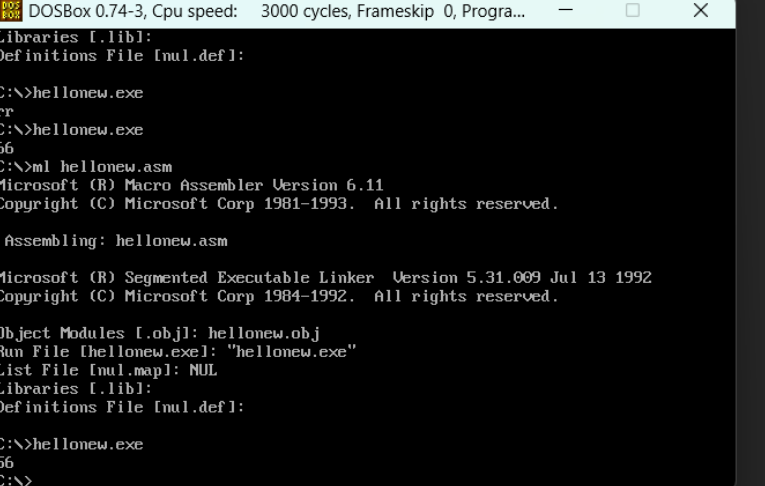
mov dl,al

inc dl

mov ah,2
int 21h

mov ah,4ch
int 21h

main endp
end main
```



**Q.4. Take a number and print the previous number.**

```
dosseg
.model small
.stack 100h
.data
.code

main proc

mov ah,1
int 21h

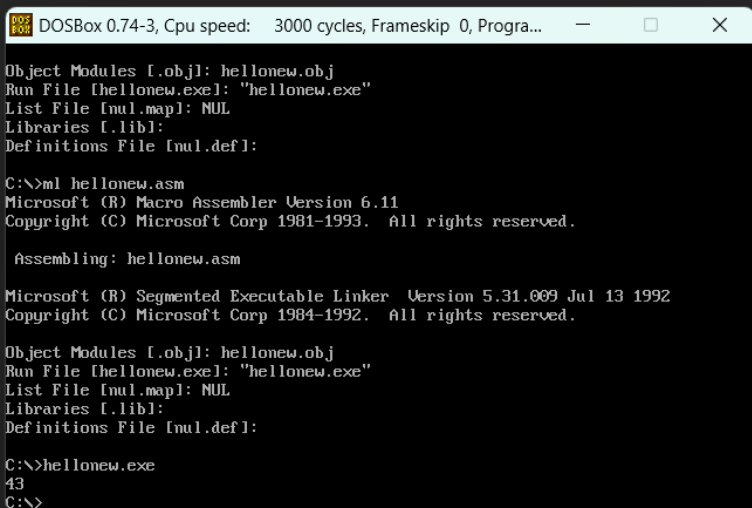
mov dl,a1

dec dl

mov ah,2
int 21h

mov ah,4ch
int 21h

main endp
end main
```



The screenshot shows a DOSBox window titled "DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...". The window displays the output of the assembly and linking process. It shows the assembly of "hellonew.asm" into "hellonew.exe" using the Microsoft Macro Assembler Version 6.11. The linker output shows the execution of "hellonew.exe" and the display of the character 'a' (ASCII 41) on the screen.

**Q.5. Write Assembly program to Input Lower Case letter from user and display it's upper case. (Subtract 32 in ASCII)**

```
dosseg
.model small
.stack 100h
.data
.code

main proc

mov ah,1
int 21h

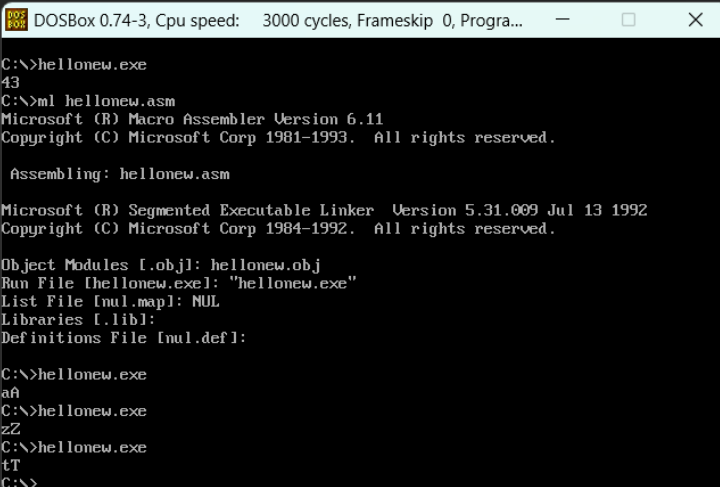
mov dl,a1

sub dl,32

mov ah,2
int 21h

mov ah,4ch
int 21h

main endp
end main
```



The screenshot shows a DOSBox window titled "DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...". The window displays the output of the assembly and linking process. It shows the assembly of "hellonew.asm" into "hellonew.exe" using the Microsoft Macro Assembler Version 6.11. The linker output shows the execution of "hellonew.exe" and the display of the character 'A' (ASCII 41) on the screen.

**Q.6. Write Assembly program to Input Upper Case letter from user and display it's lower case. (ADD 32 from ASCII)**

```
dosseg
.model small
.stack 100h
.data
.code

main proc

mov ah,1
int 21h

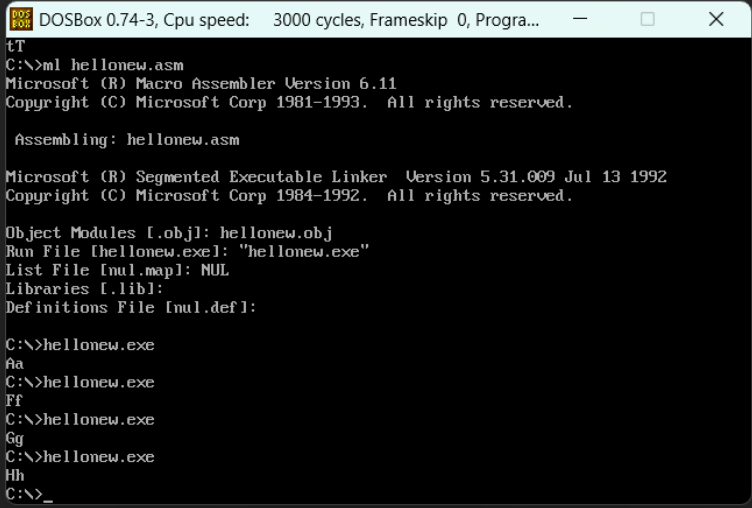
mov dl,a1

add dl,32

mov ah,2
int 21h

mov ah,4ch
int 21h

main endp
end main
```



DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...

```
TT
C:\>ml hellonew.asm
Microsoft (R) Macro Assembler Version 6.11
Copyright (C) Microsoft Corp 1981-1993. All rights reserved.

Assembling: hellonew.asm

Microsoft (R) Segmented Executable Linker Version 5.31.009 Jul 13 1992
Copyright (C) Microsoft Corp 1984-1992. All rights reserved.

Object Modules [.obj]: hellonew.obj
Run File [hellonew.exe]: "hellonew.exe"
List File [nul.map]: NUL
Libraries [.lib]:
Definitions File [nul.def]:

C:\>hellonew.exe
Aa
C:\>hellonew.exe
Ff
C:\>hellonew.exe
Gg
C:\>hellonew.exe
Hh
C:\>_
```

**Q.7. Write Assembly program to input letter from the user and display the next character**

```
dosseg
.model small
.stack 100h
.data
.code

main proc

mov ah,1
int 21h

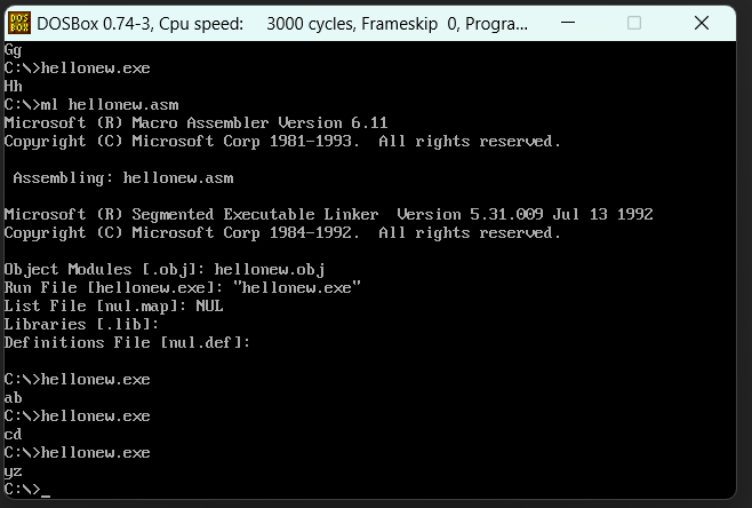
mov dl,a1

inc dl

mov ah,2
int 21h

mov ah,4ch
int 21h

main endp
end main
```



DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...

```
Gg
C:\>hellonew.exe
Hh
C:\>ml hellonew.asm
Microsoft (R) Macro Assembler Version 6.11
Copyright (C) Microsoft Corp 1981-1993. All rights reserved.

Assembling: hellonew.asm

Microsoft (R) Segmented Executable Linker Version 5.31.009 Jul 13 1992
Copyright (C) Microsoft Corp 1984-1992. All rights reserved.

Object Modules [.obj]: hellonew.obj
Run File [hellonew.exe]: "hellonew.exe"
List File [nul.map]: NUL
Libraries [.lib]:
Definitions File [nul.def]:

C:\>hellonew.exe
Bb
C:\>hellonew.exe
Cc
C:\>hellonew.exe
Dd
C:\>_
```

**Q.8. Write an assembly language program to ADD two values.**

```
dosseg
.model small
.stack 100h
.data
.code
```

```
main proc
```

```
mov ah,1
int 21h
```

```
sub al, 48
mov dl,al
```

```
mov ah,1
int 21h
sub al, 48
```

```
add dl,al
```

```
add dl,48
mov ah,2
int 21h
```

```
mov ah,4ch
int 21h
```

```
main endp
end main
```

```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
ab
C:\>hellonew.exe
cd
C:\>hellonew.exe
yz
C:\>ml hellonew.asm
Microsoft (R) Macro Assembler Version 6.11
Copyright (C) Microsoft Corp 1981-1993. All rights reserved.

Assembling: hellonew.asm

Microsoft (R) Segmented Executable Linker Version 5.31.009 Jul 13 1992
Copyright (C) Microsoft Corp 1984-1992. All rights reserved.

Object Modules [.obj]: hellonew.obj
Run File [hellonew.exe]: "hellonew.exe"
List File [nul.map]: NUL
Libraries [lib]:
Definitions File [nul.def]:

C:\>hellonew.exe
459
C:\>hellonew.exe
134
C:\>
```

**Q.9. Write an assembly language program to subtract two values.**

```
dosseg
.model small
.stack 100h
.data
.code
```

```
main proc
```

```
mov ah,1
int 21h
```

```
sub al, 48
mov dl,al
```

```
mov ah,1
int 21h
sub al, 48
```

```
sub dl,al
```

```
add dl,48
mov ah,2
int 21h
```

```
mov ah,4ch
int 21h
```

```
main endp
end main
```

```
DOSBox 0.74-3, Cpu speed: 3000 cycles, Frameskip 0, Progra...
459
C:\>hellonew.exe
134
C:\>ml hellonew.asm
Microsoft (R) Macro Assembler Version 6.11
Copyright (C) Microsoft Corp 1981-1993. All rights reserved.

Assembling: hellonew.asm

Microsoft (R) Segmented Executable Linker Version 5.31.009 Jul 13 1992
Copyright (C) Microsoft Corp 1984-1992. All rights reserved.

Object Modules [.obj]: hellonew.obj
Run File [hellonew.exe]: "hellonew.exe"
List File [nul.map]: NUL
Libraries [lib]:
Definitions File [nul.def]:

C:\>hellonew.exe
431
C:\>hellonew.exe
532
C:\>hellonew.exe
817
C:\>
```